

## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : FUJITSU LTD

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(72)Inventor : NIIZAKI TAKU  
IGAKI SEIGO

### (54) FINGERPRINT IMAGE INPUT DEVICE

#### (57)Abstract:

PURPOSE: To avoid the influence of a dried finger sweat to obtain a clear fingerprint pattern by detecting the fingerprint pattern without optical contact.

CONSTITUTION: An illumination means 1 emitting illumination light perpendicular to the envelope surface of the surface of the finger, an image pickup means 2 receiving light reflected/scattered by the fingerprint pattern of the finger and a finger placing means 3 having a through hole 9 at a place where the finger is placed are provided. The image pickup means 2 is constituted by the image-forming part of a lens 6, a diaphragm 7 and an image pickup element 8. The illumination means 1 emits light from below the through hole 9 of the finger placing means 3 by plural light sources or a fiber array arranged in a ring or an LED array arranged in the ring or

reflects the light of a point light source by a concave mirror at a lower part so as to emit light. For constituting a fingerprint input device to be thin, a semitransparent mirror is arranged between the through hole 9 and the illumination means 1, the image pickup means 2 is arranged sideways under the finger placing stand and the finger is irradiated with light from the illumination means 1 through the semi transparent mirror, light reflected on the fingerprint pattern is reflected on the semitransparent mirror and it is received by the image pickup means 2.

